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# M-TRAC

*for rail safety*

SUBMISSION BEFORE  
THE HON. MR. JUSTICE RENÉ P. FOISY  
COMMISSIONER

COMMISSION OF INQUIRY  
CONCERNING  
HINTON TRAIN COLLISION

INVOLVING VIA AND CN TRAINS  
RESULTING IN DEATHS AND INJURIES  
AND EXTENSIVE MATERIAL DAMAGE

EDMONTON, ALBERTA  
MARCH 24, 1986





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Government  
Publications

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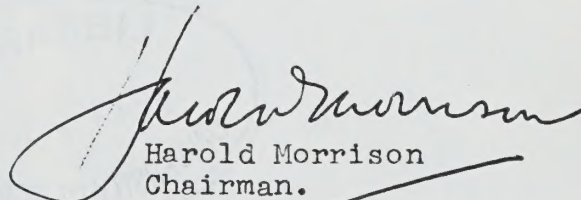
The Hon. Mr. Justice René P. Foisy  
Commissioner  
Commission of Inquiry  
Hinton Train Disaster

## Preliminary Submission

It is the submission of the M-TRAC rail safety organization that the investigation into the Hinton head-on collision on a single track is of national importance and that the results of the inquiry should include recommendations which may help prevent another such disaster.

In order to assist in any way we can, we enclose our preliminary submission, calling attention to the structural deficiencies which allowed this accident to take place.

This does not absolve the crew in any way from obvious responsibilities in ensuring the safe operation of the train. While we cannot determine what transpired in the front-end cab of the freight train, we certainly are aware of the structural deficiencies which allowed that freight train to proceed unimpeded from a double to a single track, at high speed.

  
Harold Morrison  
Chairman.

cc: Parties of Record







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M-TRAC for rail safety is an umbrella organization representing some 25 ratepayers' associations in the Metropolitan Toronto area, formed after the Mississauga derailment of 1979 and supported by grants from the Municipal governments of Metropolitan Toronto and by the Ontario government, as well as the ratepayers' groups. M-TRAC directors act voluntarily without pay. M-TRAC participated in the Mississauga investigation by Mr. Justice Samuel Grange and has been a Party of Record at public inquiries by the Railway Transport Committee of the Canadian Transport Commission.

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Cover photo: Doug Shanks Edmonton Sun





## I. I N T R O D U C T I O N

The M-TRAC rail safety organization has been recognized by the Canadian Transport Commission as a full Party of Record in a number of rail investigations and hearings stretching from Ottawa to Vancouver.

This recognition included full access to witnesses and cross-examination of witnesses in semi-judicial investigations involving and arising out of the Mississauga derailment of 1979, the Medonté Township derailment of 1982, the propane tank car explosion in Winnipeg also in 1982, the MacMillan Yard explosion of 1984 and the railways' application to remove the caboos from Canadian rail operations.

As a result of these and other participations relating to the improvement of rail safety, particularly in the haulage of dangerous goods, this group has been able to achieve a continuing process of escalated recognition of the need for granting rail safety the highest priority in rail operations.







Improvements have taken place and we perceive that further improvements are required in the light of an awesome string of recent rail accidents unprecedented in our time.

The most damaging of these accidents was the February 8, 1986, Hinton disaster involving a high-speed VIA rail passenger train and a heavy 114-car freight train meeting head-on, bringing death to 23 persons, extensive injuries to many others and material damage amounting to many millions of dollars.

This accident, which caused so much anguish and destruction, contained national implications. Even in the preliminary stages of the investigation, it became clear that it was not just a case of "human failure," as Canadian National would have it, but deeper problems of railway technology and the strategic importance of ensuring that every possible means of deterrence is made available to the human element as part of the prevention process.

Over the years the M-TRAC organization has been able to build up a network of technical advisers who have urged the organization to bring emphatically to this Commission of Inquiry the vital need of exploring every possible means by which this accident at Hinton might have been prevented through the application of technical means and through the examination of witnesses bring out why, if such technology is available, it was not applied to the single and double track operation in the Hinton area.







M-TRAC operates as a voluntary organization on a limited budget. But through the efforts of these volunteers speeds of certain dangerous goods have been reduced in urban areas, speeds in humping yards have been reduced in the handling of loaded and empty tank cars, the misleading placard EMPTY on pressurized tank cars is being eliminated and better identification of the dangerous goods tank cars is being introduced through candy striping.

Because of federal recognition of the value of the M-TRAC organization, the new emergency response force established by the Railway Transport Committee--known as IRRATE--includes an M-TRAC nominee, Dr. George Weatherly, whose knowledge in the field of metallurgy has been lauded by the previous RTC chairman, Mr. John Magee.

M-TRAC also maintains a relationship with the National Transportation Safety Board in Washington, D.C., and has agreed to serve on a Canadian steering committee in the drafting of a new rail safety law, as well as on a federal task force dealing with regional rail problems in the Metropolitan Toronto area.





## II. TRIAL BY PRESS

Immediately after the Hinton disaster there was a great public outcry for explanations and it is clear that Canadian National, as the operator of that rail line, had a responsibility to provide ~~what~~ explanations it had available.

It was not an isolated accident but one that formed part of a series of accidents in various parts of the country. Other accidents followed and the country was plainly apprehensive. It is right that a high official of the Canadian National should try to reassure rail users. But the manner in which the press interviews took place suggested more than factual information. It suggested a conjectural attempt to pin the blame on "human failure"--a clear allusion to the freight train crew, accompanied by insinuations which the press interpreted as irresponsible employees who were either asleep, drunk or drugged and therefore incapable of recognizing a warning light to bring the train to a halt.

What appeared to be taking place was a public trial conducted by Canadian National in the press and the finding of guilt against those linked to "human failure."





Not a word was said about the possibility that the switch in place may not have been suitable for a single and double track connection; that the speed of the two trains may not have been suitable for such a dangerous connection; that the best technology had not been available to bring the freight train to a halt and that "human failure" may not necessarily apply **solely** to the train crew but to company management as well.

Indeed, in the process of this inquiry it may be a case where the Commissioner may find a need to apportion blame and may have to weigh the activities of the crew--whatever is known of those activities--with the knowledge that the rail operation in that particular area where the accident took place could have been made safer, had the proper technology been applied.

Whatever the decision of this inquiry, we submit to the Commissioner that such trials by press can be basically unfair and leave such lasting impressions in the public mind that whatever judicial decisions ensue may not reach the entire audience which became prey to the original conception.

We take no sides but we could not help but note the response of Alberta Federation of Labor officials who condemned CN management for "reprehensible" behavior in suggesting that the freight train crew may have used drugs or alcohol.

We know that drugs and alcohol are problems in many industries but was it fair to suggest these debilitating products were factors in the accident before this inquiry had even begun?





The Commissioner may wish to address this issue in his report. It may be that there is no way of restraining people from making statements prior to an inquiry and it may be that those who make insinuations simply have to be countered by those who deny the insinuations. But what power has an outsider to influence the reader when all the investigative information is lodged with one party and this party treats the information to his own advantage?

The situation does not seem fair. Whatever the factors in the Hinton disaster, it is through the examination of these factors by this inquiry that a fair and reasonable decision can be reached, not by the predetermination of facts by one vested party.





### III. THE CENTRAL ISSUE

Each party to this inquiry may have its own view of the importance of various activities that contributed to the Hinton disaster. It may be that the train crew was entirely at fault or that there was a relationship between the train crew's failure to apply the emergency brakes and conditions of the signalling and communications equipment.

We, in fact, don't know what went on in that cab. Both occupants died, their bodies mutilated by the accident. And there is no black box or record of what went on in that cab simply because either the black box is still in a state of development or it is developed and not yet installed in railway cabs.

Over the years we have appealed for action to get this automatic recorder installed. It does not prevent accidents but it leaves a record which may help prevent future accidents. It certainly would have been helpful in this case. We urge His Lordship to impress on federal authorities the urgent need for installation.





Not having information on the condition or the activities of the men in the cab, we have to consider the conditions on the ground that may have influenced the accident.

Was the communication system between the caboose and the front-end cab capable of malfunctioning and has such equipment malfunctioned in the past?

Was the signalling equipment capable of presenting the crew with a wrong signal? Was there any moving parts in the roadside equipment that might be affected by the weather or by years of use?

And, finally, was the switch connecting the single and double track the best available for this service? It is this switch which causes the greatest uneasiness in terms of technological advancement.

Humans can fail in their duties. Computers can and do fail. Wherever possible, back-up systems must be put into place. But there is no back-up to that switch that allowed a fast-moving heavily-loaded freight train to enter an occupied single track despite a stop signal. Had there been a different kind of switch, there might have been a derailment of the freight train but the head-on collision with the VIA train might have been averted.

The question must be asked: is a different kind of switch available? The answer must be: there is. Even an old-fashioned switch that would have dumped the freight train on an empty field nearby would have been better than the use of a switch that allowed the high-speed freight train to enter the single track.





More vital is the fact that technology exists whereby the freight train, having breached a stop signal, could have been brought to an immediate halt by automatic application of the emergency braking system. The technology is there and is used in other countries. Undoubtedly it will be applied in this country in due course. The tragedy is that it could have been applied in the Hinton area and 23 lives could have been saved.

Not to be overlooked is the allowable speed on the single track and on the double track on approach to the connecting point. The railways frequently argue that there is no relationship between speed and the severity of accidents. We suggest there is and that because of this obvious relationship steps have been taken at sensitive areas in Canada, including downtown Vancouver, to reduce speeds as an accident-prevention measure.

High speeds in proximity to a single and double track connection may provide a risk we can no longer tolerate. Had the railway ordered a sharp reduction in speed in that sensitive area, the severity of the accident might have been reduced.





#### IV. THE PRE - EMINENCE OF SAFETY

There can be no question that in the transport of passengers and the haulage of freight including dangerous products by rail there can be no issue more important than the priority of safety.

This recognized priority of safety was spelled out more than a dozen years ago by the Railway Transport Committee of the Canadian Transport Commission.

In its initial report following a general safety inquiry, the RTC stated on April 19, 1972:

"Among the duties imposed upon it by the Railway Act and the National Transportation Act, the Railway Transport Committee has the obligation of ensuring that all railway operations in Canada are carried out in maximum safety."

On the basis of preliminary information we contend that this principle and this obligation were not carried out in the Hinton rail operation and this lack of dedication to this sacred principle contributed to the disaster.

It is evident that this single track and double track connection, allowing traffic either way on the single track, presented an unusual risk. The switch that was used at the connecting point presented a risk. The allowable speeds presented another danger.





Therefore, apart from the behavior of the crew, the operational structure **should** be given close examination. The location of the signalling posts in proximity to the single and double track connection require consideration. Did the location of the "home" signal allow sufficient time for a long, heavy high-speed freight train to come to an emergency stop without breaching the single track entry?

It is difficult to believe that a trained crew, concerned about their own lives as well as the lives of their fellow **men**, would act in a negligent manner at a known crucial point in the course of their duties.

But crews can fail, just as equipment can fail. The front-end crew may have failed to observed the warning light at the approach signal and by the time they became fully aware of the stop signal, it may have been too late to stop the train before entering the single track. That is only a conjecture.

Communications between the front-end and the rear-end **may** have failed. If so, it was the duty of the conductor to **apply** the emergency brake. No matter what reservations he might have had, he should have applied the brake. But if he had reservations, the question dwells on the degree of demand imposed on him by management to observe that duty. Does the management allow a latitude in the use of the emergency braking system? Does the employee feel he might be open to criticism if he applied the emergency brake too often?



We believe these points should be raised in this inquiry. Further, we believe that it is incumbent on the presiding officer of this inquiry to provide recommendations to federal authorities which will lead to increased surveillance by federal inspectors and a general tightening up of safety measures including a speed-up in the application of the most up-to-date technology in signalling and forced braking of runaway or uncontrolled trains.

We suggest again that the technology is there. It only needs application, especially in the high-risk areas where catastrophe is a continuing possibility. At the end of the investigation, there must be reiteration and confirmation of the principle that the railways of Canada must operate in maximum safety. It is only with that determination that we can be assured that every step possible--and reasonable--is taken to prevent another Hinton disaster.











# CN speculation 'reprehensible'

Caln  
Journal  
Feb 12/86

By MARILYN MOYSA  
Journal Staff Writer

An Alberta labor leader has attacked suggestions by CN Rail officials that the Hinton train disaster could have involved alcohol or drug use by a train crew.

"We find it reprehensible that after only the most preliminary investigation, CN management has been publicly speculating about the possible use of drugs or alcohol by the work crew," Alberta Federation of Labor president Dave Werlin said Tuesday.

"That is extremely inappropriate and insensitive behavior."

Speculation by CN management has been carried by media other

The Journal, said federation secretary-treasurer Don Aitken.

He agreed the only speculation carried in The Journal about the possible use of alcohol by the freight train crew involved in Saturday's collision was made by co-workers in Jasper.

"Our concern is that any speculation is going on at all," said Aitken.

"There seems to be a lot of pressure that this accident involved human error, rather than mechanical error," which is premature, he said.

CN management shouldn't be publicly speculating at all because they are the only ones with the facts, he added.

"You'd think they'd be telling us things they know, like whether the crew had worked a double shift before the accident, instead of speculating," he said.

The 107,000-member AFL welcomes the judicial inquiry into the accident, said Aitken.

He said the federation is hoping effects of crew cutbacks and deregulation on rail safety will also be seriously examined during the inquiry.



First passenger train since Saturday's crash near Hinton passes fatal wreck on temporary track.

Werlin said that perhaps the time has come for Ottawa and Canada's two major railroads "to put some of our unemployed citizens to work twinning the railroads right across this country."

Meanwhile, two national railway union spokesmen said Tuesday that use of alcohol or drugs by railway employees is no higher than in other industries.

"I don't think there's a higher

incidence than anywhere else," said Mike Hont, research director for the 150,000-member United Transportation Union.

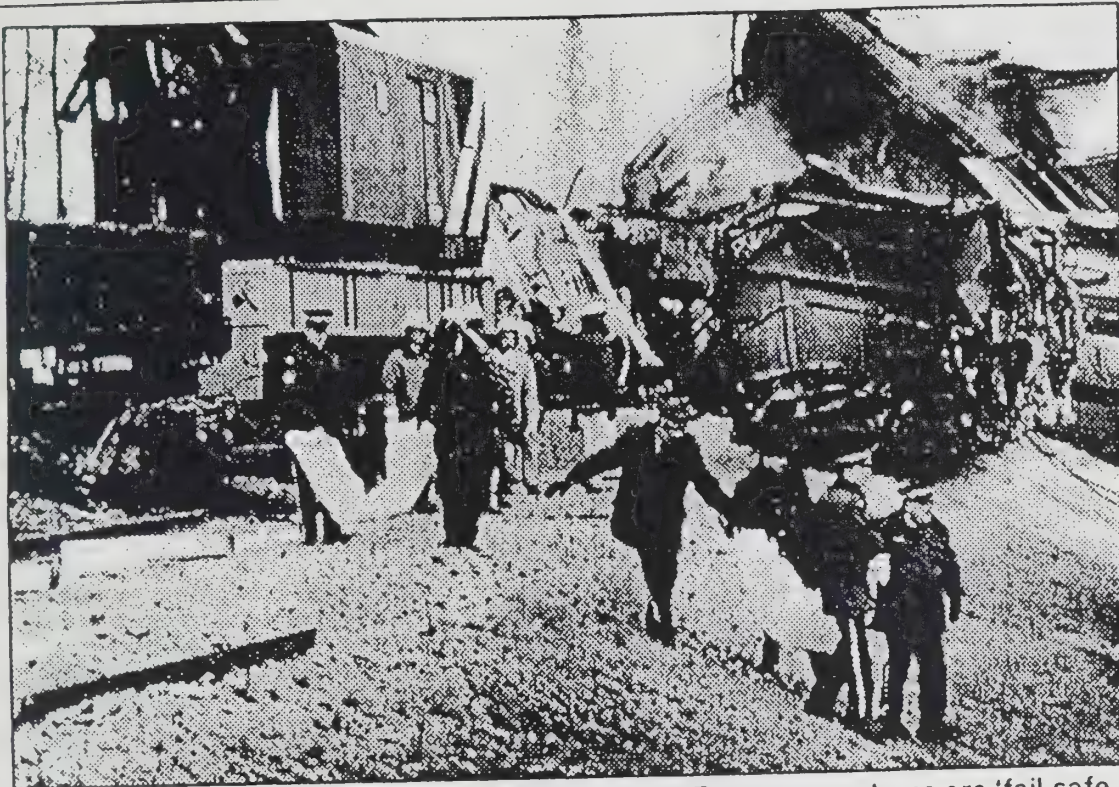
No studies have been done in Canada to support this, but American studies have found that alcohol or drug abuse is not higher in the railway industry, Hont said. Garyman, president of Canadian vice-president of the Brotherhood of Maintenance of Way Employees, said a "minimum" number of his union's members have gone through CN's employee assistance program.

The concern is not by the railway, but by the public, Hont said. "The public has a right to know the truth about what happened," he said.





# LETTERS TO THE EDITOR



RCMP officers remove bodies from Hinton wreck: European systems are 'fail-safe.'

## Available railway technology

Could the Hinton, Alta., rail disaster have been prevented? A vice-president of CN Rail said recently in a television interview that it would be "unrealistic" to expect the signalling system to function without problems 365 days a year.

That section of the transcontinental CN line has been called by various spokesmen one of the most modern in Canada. But in the article *Traffic Control System Working*, CN Says (Feb. 10), an expert from Ottawa said that "the highly sophisticated traffic control system cannot prevent human error." This indicates that it may be modern by North American standards, but not by European standards. The advanced signalling systems in use on main lines in Germany (in some form since 1930), and on the newer French lines, are designed to preclude the kind of human error that has been inferred, with trains travelling at speeds of up to 250 kilometres per hour. They are "fail-safe" in every respect.

If a driver exceeds the allowable speed limit, the brakes automatically go into action. If he ignores a red stop signal, the train is automatically stopped before it enters a prohibited track section, such as the single track in the Hinton incident. (The CN trains involved in the crash travelled at a relatively slow speed of 70 kilometres per hour, according to the authorities.) With the many single-track main lines we have in Canada, this type of protection would be fully justified.

There are two important areas in which Canadian railways are 50 to 80 years behind most Euro-

pean countries, and decades behind even some Third World countries. One is track construction, with flimsy spikes still precariously holding down most rails in North America (compared with heavy screw-type bolts and other secure rail-fasteners used in Europe for most of this century).

The other is a lack of electrification. Even if a major collision were to occur on an electric line, there is no danger of explosions and widespread fire (unless the collision involves a freight train with tanker cars, which should not be in the front part of any train anyway). It seems that ignited diesel fuel from the locomotives hampered rescue attempts in the Hinton disaster.

The general excuse for the lack of electrical railways in Canada — the small population spread over a vast country — is only partly valid. The population density of South Central Ontario (with the Golden Horseshoe), for example, is as great as that of the most crowded of the European nations. Most of the 9,300-kilometre Trans-Siberian Railway is electric. By comparison, Toronto-Vancouver, via CP Rail, is less than 4,400 kilometres.

Electrification of at least the main railway lines in Canada is long overdue. It would make sense to use some surplus electric power, now exported to the United States at cheap rates, to run modern railways. This could be done at one-half to one-third the cost of running diesel trains, and with less noise and pollution and greater passenger comfort.

A. J. Mettler  
Fonthill, Ont.





# Your Opinion

## Can CN explain why?

Re: Carnage at Hinton  
(Journal, Feb. 9).

Can anyone with the CN railway explain why there was no "D" rail at the point where the freight train entered the same track as the trans-continental?

A "D" rail is a split rail which is activated if the freight trains proceed past the stop signal. A magnetic shoe triggers the split rail and the freight is derailed onto the ground. Risk of injury is low, as in most cases of derailment.

Can CN explain why there is no tape of voice conversations between the Centralized Traffic Control dispatcher and the freight train crew? The American Railroad Association, of which CN is a member, has members which have done this for years.

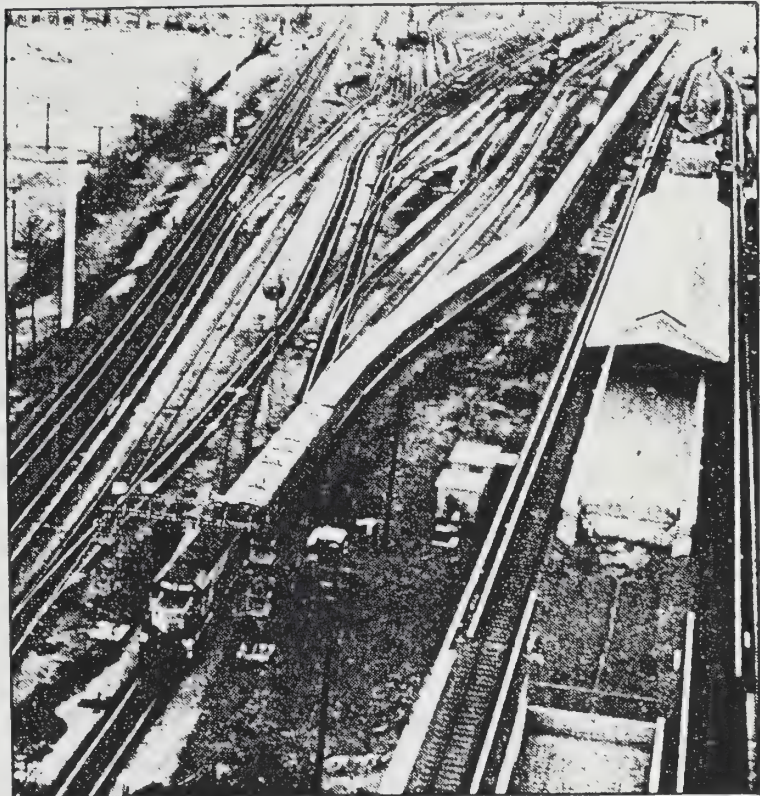
Can CN explain why, as an extra precaution, the train crew of the freight didn't have written train orders which could have alerted the crew to the approaching trans-continental? This would have enabled the man at the tail end to use the emergency bell to warn the engineman. On the other hand, if they had these written train orders, why weren't they alerted?

In 1957, Peter Josserand published the 5th edition of *The Rights Of Trains*, a book used and familiar to all railway signalmen and dispatchers. The use of Centralized Traffic Control (CTC) was widespread in North America at that time.

To suggest, as have CN officials, that this system is the latest in technology is not accurate.

The system might be compared to that used by an air traffic controller, in that a dispatcher controls signal lights ahead of a train from a location hundreds of miles away.

However, unlike the air



Employees should not take the heat for the railway's failings  
... judicial inquiry into crash should hear the public's concerns

traffic controller, the railway dispatcher does not have radar to show him where the trains are at any particular point. He must rely upon radio messages received from each train engineman and then attempt to plot each train's location.

Josserand said, in 1957, that hazards in this system exist because the dispatcher, in addition to controlling the movements of trains, also has the job of controlling a great number of yard engine movements on the main track.

As well, the system still requires a number of movements to be made on verbal instructions from the dispatcher. If these are not heard clearly enough by the train crew, errors can happen.

As a lawyer who has sued, on behalf of his clients, the railways in number of fatalities and serious injuries over

the years, I am well aware of how railway officials restrict public information of their operations.

Unfortunately, the Railway Transport commission is made up of former railway personnel, who continue to be sympathetic to their former employers. Too often commission hearings are showcases for railway companies to lay the blame on that one "negligent employee" as opposed to attempting to design safer systems which could eliminate the risk of human error.

The judicial inquiry will be effective to pinpoint the cause and solution to disasters like the one at Hinton only if public concerns are heard, as opposed to a one-sided railway view of the crash.

John A. Sutherland  
Calgary





# Signals failed 7 times before Quebec crash

Canadian Press

MONTREAL

Canadian National Railways had seven malfunctions in its signalling system near Bernières, Que., over a two-month period before a Feb. 15 crash that injured 42 people, documents show.

A CNR report on the signal and switch problems, presented yesterday to a Canadian Transport Commission inquiry, says the defects ranged from broken wires to burned-out bulbs.

The problems occurred between last Dec. 15 and Jan. 23, when it took technicians 7½ hours to restore power to a light.

A Montreal-bound Via Rail Canada Inc. passenger train was travelling about 15 kilometres an hour when it rammed the stationary CNR freight on Feb. 15 in the Trudel rail siding outside Bernières, near Quebec City.

The collision was one of a series of train accidents that occurred across Canada within a few weeks.

Lawyers for the CNR and Via Rail at the Bernières crash inquiry presented the panel with operation manuals, track inspection notes and a report on the railway's last complete inspection of its signalling system in September, 1983. The inspections are done every four years.

The panel also received a report by waiter C. Y. LeBlanc, who was assigned to the dining car on the Via Rail train and assisted injured passengers after the collision.

Mr. LeBlanc said that 40 minutes after the accident, the crew had still not been informed of what happened.

"I assumed that we had rear-ended a freight train," he said.

"The only specific instructions that I can recall receiving were from the steward that we were to secure the dining car and to help move passengers from the day-niter to the sleeper lounge."

CNR assistant manager René Chappaz said in an interview the switch at Trudel was open, routing the passenger train into the siding.

"One of the key questions is why the switch was open," Mr. Chappaz said.

The commission's three members and staff, as well as representatives of the CNR and Via Rail, travelled on Monday to Bernières to examine the scene. On Tuesday, they visited the CNR dispatchers' office in Montreal and viewed the damaged train.

In an interview, Mr. Chappaz said the CNR has cut its track-maintenance crews to one man per 16 kilometres with the occasional help of part-time workers, one-tenth of the level of about 20 years ago.

But Mr. Chappaz disagreed with union executive Raymond Lebel, who said hiring more crews would reduce the likelihood of a disaster.

Mr. Chappaz said advanced technology makes for more efficient detection of track problems, and more crews could not relieve the damaging effects of the harsh winter on rail equipment.







